ISS Utilization Management Concept Development Team

Informational Briefing Package

Center Directors

Rev. 1 with Added Charts p. 23,24, 25

27 September 2002

Agenda

- Red Team III Charter and Membership
- Red Team III Schedule
- Results of Center Director Review
- Evaluation Criteria
- Scoring Rules
- Option Scoring Results
- Scoring Rationale

Red Team III Charter & Membership

27 September Review

Charter:

- Review Blue Team updates to the Evaluation Criteria, Weighting Factors and Scoring Rationale. Recommend changes if required
- Provide oral and written recommendations to the OBPR Associate Administrator and Blue Team

Membership:

Jerry Simpson Co-Chair
Charles Stegemoeller
Dr. Dave Leckrone
Dr. Jan Davis
Ray Sparnon
Dr. John Campbell, Co-Chair
Maynette Smith
Rudolph Saldana
Dr. Eugene Trinh

Red Team III Schedule

27 September Review

8:00	Introductions and Team Process	Jerry Simpson
8:15	Review of Center Directors Meeting and Red Team III Meeting Purpose	Mary Kicza
8:45	Blue Team Report	Robin Henderson
9:15	Red Team Review	Red Team III
11:45	Break	
12:15	Red Team III Debrief to Mary Kicza and Blue Team	Dr. John Campbell
1:00	Adjourn	

Results of Center Director Review

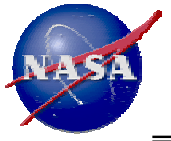
12-13 September

- Some type of “NASA Reinvention” is required and must be initiated in parallel with selection and implementation of an NGO for ISS Utilization
  - Reinvention to be defined, managed and implemented at the Senior Agency level
- Agency must move out quickly on addressing user community concerns
- Center Directors performed preliminary Evaluation Criteria Weighting and Option evaluation:
  - Recommended revised functional allocation for an NGO
  - Determined Institute and FFRDC as best NGO Options
  - Eliminated Government Corporation Option from consideration

Results of Center Director Review, cont'd

12-13 September

- Center Directors recommended using a rigorous scoring methodology to evaluate/assess the candidate Options and reaffirm their preliminary scoring results
- Blue Team directed to:
  - Modify Evaluation Criteria to eliminate non-discriminating factors/overlap and to add elements from the Summary Comparison Matrix
  - Segment Evaluation Criteria into appropriate categories
  - Assess and modify as necessary the initial Center Director Evaluation Criteria Weighting and Option functional allocations
  - Use Evaluation Criteria and Weighting to score Options
  - Document rationale for weighting and scoring
- Red Team III commissioned to review Blue Team results
- Conduct follow-up briefing with Center Directors to review Blue Team results and Red Team assessment



Evaluation

Option Evaluation Criteria
Performance Factors

1. **Safety Assurances** - The organization has the appropriate levels of approval authority and planning involvement (internal Agency representation, definition of budget requirements, management accountability, process control and improvement implementation) to assure the highest priority on the safety of all human life and the protection of national and international assets while remaining user mission focused in facilitating utilization of ISS.

2-5. **Leadership Commitments** - The organization can effectively provide the broadest range of advocacy, conflict free integrity (perceived and real) and the highest quality research services to the user and stakeholder communities in fulfilling the overall ISS utilization objectives while assuring the accomplishment of the specific goals, objectives and requirements within each of the three research areas of endeavor:

   2. **Science**
   3. **Technology**
   4. **Commercial**
   5. **Integrated Science/Technology/Commercial**

Option Evaluation Criteria, cont'd
Performance Factors

6. **International Involvement -** The organization has the authority, resources and accepted international recognition to not only comply with international commitments but to also leverage international assets though partnerships, barter agreements and other contract arrangements in achieving maximum effective ISS utilization. The organizational interface complexities in initiating opportunities (directly and indirectly) and in performing these responsibilities should be as simple as possible and provide high accountability for results to the Agency, the National S/T/C user communities and the International research communities.

7. **Quality of Human Resources -** The organizational structure, size, opportunities, positions of influence, incentives and culture can attract the "best and brightest" in fulfilling the broad nature of the leadership, advocacy, technical skills, management expertise, business acumen practices, innovative improvements and customer oriented attitudes for each the three research endeavors.

Option Evaluation Criteria, cont'd
Performance Factors

8. **Strategic Focus** - The organization is responsible for and is structured to achieving and maintaining focus on excellence in ISS Utilization as its highest priority and has its goals and objectives aligned to the strategic plans of the S/T/C user community and sponsoring research entities, while also being timely, flexible and adaptable in its ability to respond to changing research needs.

9. **Responsiveness** - The organization can align its budget and staffing, and provide the management focus and flexibility in its processes to be responsive to user requirements and to achieve increased research utilization opportunities, output and outcome through continuous process improvement mechanisms and lessons learned.

Option Evaluation Criteria, cont'd
Performance Factors

10. **Optimized Use of Access and Resources** - The organization has the capability to optimize the use of current and future available space access and ISS resources. This will support the highest priority conduct of research on a World-class International facility. This includes authority, position of influence, resources and appropriate external organizational interfaces to advocate, negotiate, and secure commitments for the user communities. Examples of necessary and dependable access resources include the frequency, timeframe, and location of launch opportunities, vehicle ascent and descent resource allocations, and ISS resource allocations and contingency accommodations.

11. **Shorter Time to Enable Discovery** - The organization has a mission focus that establishes the highest priorities to providing stable research funding commitments and efficient outcome driven user centric processes, including research selection and multiple flight approval as appropriate in order to reduce the end-to-end life-cycle time of a payload.

Option Evaluation Criteria, cont'd
Performance Factors

12. **Customer Focus -** The organization is structured to effectively involve the S/T/C user community in all phases of planning, designing, implementing, conducting and evaluating utilization of the ISS, to foster trusted confidence and greater external involvement of the user community in ISS utilization, and to focus on responding to the voice of the customer in its ability to simplify and streamline the processes associated with ISS utilization.

13. **Performance Accountability -** The management option can provide leadership values and performance expectations that are user focused, aligned with the available resources and consistent with all organizational commitments. The management processes, lines of authority, ownership of responsibilities and process improvement actions should reflect maximum organizational accountability for performance in accomplishing and improving the desired user outcomes.

Option Evaluation Criteria, cont'd
Performance Factors

14. **Integrity -** The organization can efficiently provide stewardship of public monies and assets, selection processes, and custodial responsibilities for intellectual properties and fulfillment of commitments (users, stakeholders and partners).

15. **Knowledge -** The organization can achieve maximum dissemination of appropriate research results to all for use in generating knowledge and application to further research, as well as education and outreach.

16. **Interface Responsibilities -** The organization can effectively interface with and/or perform the functions that are inherently or appropriately governmental in nature with minimum implementation complexity and no negative impact to the overall governmental responsibilities of the Agency.

Option Evaluation Criteria, cont'd
Performance Factors

17. **Financial Expenditure -** The organization is structured to optimize implementation and sustaining costs, and can provide certainty and confidence in the commitment of resources required to produce the best value to the researcher, over the life of the research project and processes.

18. **Funding and Support Advocacy -** The organization should be capable of effectively advocating and acquiring viable and sustainable funding resources, including capital investments, broadening the ISS user community, obtaining and maintaining external relationships, and clearly communicating the relevance of outcomes and the desired resource requirements necessary to proactively support the ISS user communities of S/T/C.

Option Evaluation Criteria, cont'd
Agency Implications

19. **Transition -** The transition plan mitigates risks to NASA and the organization, is logical and timely, minimizes impacts to ongoing operations and existing contracts, and contains minimal disruption to existing interfaces and agreements.

20. **Establishment –** The establishment of the entity considers the complexity of the implementation, the requirement for approval/legislation outside of NASA, the predictability of the outcome, the time needed for establishment, the longevity of the arrangement, and the ability to recompete or sever the arrangement.

21. **Facilities -** The organization has the ability to obtain the necessary facility resources to perform assigned functions and maximize the accessibility, availability and overall cost effectiveness in the use of the required facility resources - including those that are owned and/or operated by the government.

Option Evaluation Criteria, cont'd
Agency Implications

22. **Control -** The organization has an appropriate level of control for managing the designated functions and will respond to NASA direction as required to carry out its responsibilities.

23. **NASA Human Capital -** The implementation of the organization allows NASA to define a full suite of human capital strategies and implement the tools necessary to address potential adverse impacts on NASA employees, and the degree of complexity of the strategies and tools, and the effort necessary for this implementation is considered to be reasonable for NASA to undertake.

24. **Competencies** – The competency strategy achieves a balanced result between staffing critical competencies of the new organization and NASA, and recognizes those competencies that the Agency must retain and those for which it relies on industry, academia and others to provide.

Option Evaluation

Center Director's Weighting of Evaluation Criteria

CD	Blue Team		Evaluation Criteria	Reinvent	Institute	FFRDC
1	1	1	Safety Assurances			
2	2	2	Science Leadership Commitment			
3	3	3	Technology Leadership Commitment			
4	4	4	Commercial Leadership Commitment			
5	5	5	Integrated S/T/C Leadership Commitment			
6	6	6	International Involvement			
7	7	7	Quality of Human Resources			
8	8	8	Strategic Focus			
9	9	9	Responsiveness			
10	10	10	Optimized Use of Access and Resources			
11	11	11	Shorter Time to Enable Discovery			
12	12	12	Customer Focus			
13	13	13	Performance Accountability			
14	14	14	Integrity			
15	15	15	Knowledge			
16	16	16	Interface Responsibilities			
17	17	17	Financial Expenditure			
18	18	18	Funding and Support Advocacy			

The Blue Team reassessed the Evaluation Criteria weighting to drive out relative priority

- Critical
- Important
- Should be Considered

Option Evaluation

- All criteria were determined to be discriminators across the Options
- Six criteria defined as "implications to NASA" were added and weighted

	Evaluation Criteria	Reinvent	Institute	FFRDC
1	Safety Assurances			
2	Science Leadership Commitment			
3	Technology Leadership Commitment			
4	Commercial Leadership Commitment			
5	Integrated S/T/C Leadership Commitment			
6	International Involvement			
7	Quality of Human Resources			
8	Strategic Focus			
9	Responsiveness			
10	Optimized Use of Access and Resources			
11	Shorter Time to Enable Discovery			
12	Customer Focus			
13	Performance Accountability			
14	Integrity			
15	Knowledge			
16	Interface Responsibilities			
17	Financial Expenditure			
18	Funding and Support Advocacy			
19	Transition			
20	Establishment			
21	Facilities			
22	Control			
23	Human Capital			
24	Competencies			

10	Critical
7	Important
3	Should be Considered

The Blue Team assigned a numeric value to each "weight" based on a logarithmic scale

Option Evaluation

- **Evaluation Criteria partitioned into three major categories**
  - Safety
  - Technical Performance
  - Business Performance
- **The categories represent an Option's ability to meet the:**
  - Three Objectives of an alternate structure for ISS Utilization Management
  - Vision and Guiding Principles for ISS Utilization to support NASA Strategic Goals
  - User community inputs relative to utilization challenges

Evaluation of potential NASA implications

	Evaluation Criteria	Reinvent	Institute	FFRDC
Safety	1 Safety Assurances			
Technical Performance	2 Science Leadership Commitment			
	3 Technology Leadership Commitment			
	4 Commercial Leadership Commitment			
	5 Integrated S/T/C Leadership Commitment			
	8 Strategic Focus			
	10 Optimized Use of Access and Resources			
	11 Shorter Time to Enable Discovery			
	12 Customer Focus			
	15 Knowledge			
	Subtotal			
Business Performance	6 International Involvement			
	7 Quality of Human Resources			
	9 Responsiveness			
	13 Performance Accountability			
	14 Integrity			
	16 Interface Responsibilities			
	17 Financial Expenditure			
	18 Funding and Support Advocacy			
	Subtotal			
	Total Benefit			
Implications	19 Transition			
	20 Establishment			
	21 Facilities			
	22 Control			
	23 Human Capital			
	24 Competencies			
	Total Implication			
	Total Benefit vs. Implication			
	Value to NASA			

10	Critical
7	Important
3	Should be Considered

Option Evaluation

- **Unweighted scoring of each option based on the Blue Team's internal assessment**
- **Utilized a scoring methodology based on:**
  - +2 Excellent
  - +1 Good
  - 0 Neutral
  - -1 Deficient
  - -2 Poor

		Evaluation Criteria	Reinvent	Institute	FFRDC
Safety	1	Safety Assurances	0	0	0
Technical Performance	2	Science Leadership Commitment	0	+2	+1
	3	Technology Leadership Commitment	+2	+1	+2
	4	Commercial Leadership Commitment	+1	+1	+1
	5	Integrated S/T/C Leadership Commitment	0	+1	+1
	8	Strategic Focus	0	+1	+1
	10	Optimized Use of Access and Resources	0	+1	+1
	11	Shorter Time to Enable Discovery	0	+1	+1
	12	Customer Focus	0	+2	+1
	15	Knowledge	0	+1	+1
		Unweighted Subtotal	+3	+11	+10
Business Performance	6	International Involvement	+2	0	+1
	7	Quality of Human Resources	-1	+1	+1
	9	Responsiveness	+1	+1	+1
	13	Performance Accountability	0	0	0
	14	Integrity	0	0	0
	16	Interface Responsibilities	+2	+1	0
	17	Financial Expenditure	-1	0	0
	18	Funding and Support Advocacy	-1	+1	+1
		Unweighted Subtotal	+3	+4	+4
		Unweighted Total Benefit	+6	+15	+14
Implications	19	Transition	+2	0	-1
	20	Establishment	+1	0	-1
	21	Facilities	+1	-1	-1
	22	Control	+1	0	0
	23	Human Capital	+1	0	0
	24	Competencies	+1	0	-1
		Unweighted Total Implication	+7	-1	-4
		Unweighted (Total Benefit vs. Implication)	+6:+7	+15:-1	+14:-4
		Value to NASA	?	?	?

Option Scoring Rationale - Example

12. Customer Focus - The organization is structured to effectively involve the S/T/C user community in all phases of planning, designing, implementing, conducting and evaluating utilization of the ISS, to foster trusted confidence and greater external involvement of the user community in ISS utilization, and to focus on responding to the voice of the customer in its ability to simplify and streamline the processes associated with ISS utilization.

Reinvent: 0

- Reinvent's Customer Focus offices are established as User oriented entities. Non- performance will be more visible to the user community.
- Since Reinvent is internal NASA activity, (without direct user involvement in establishment), Reinvent will still suffer from the perception of non-responsiveness to the user community.

Institute: +2

- The primary focus and purpose of the Institute is to provide a vehicle for the user community to be directly involved the ISS utilization process and to fully engage the user community.
- Because of its science expertise, the Institute is able to facilitate, influence and implement the appropriate science strategic plans for ISS Utilization Management.
- The Institute is primarily comprised of the research community, fostering the trust and confidence that the focus of the organization will be customer oriented.

FFRDC: +1

- Through the involvement of the S/T/C user communities, the FFRDC will be positioned to foster trusted confidence in the ISS utilization process, as well as, provide a deeper understanding of true ISS capabilities and limitations.
- The FFRDC takes a user centric view of ISS utilization through provision of Customer Integration and Support services.
- Through representation at the highest levels of ISS utilization management, the FFRDC will be ideally positioned to meet stated user issues and concerns.
- Perception that the science community may not be willing to accept the FFRDC because FFRDC personnel are not actively engaged in research.

Option Evaluation

- **Final weighted scoring of the three Options**

		Evaluation Criteria	Reinvent	Institute	FFRDC
Safety	1	Safety Assurances	0	0	0
Technical Performance	2	Science Leadership Commitment	0	20	10
	3	Technology Leadership Commitment	20	10	20
	4	Commercial Leadership Commitment	10	10	10
	5	Integrated S/T/C Leadership Commitment	0	10	10
	8	Strategic Focus	0	3	3
	10	Optimized Use of Access and Resources	0	10	10
	11	Shorter Time to Enable Discovery	0	7	7
	12	Customer Focus	0	20	10
	15	Knowledge	0	7	7
		Subtotal	30	97	87
Business Performance	6	International Involvement	6	0	3
	7	Quality of Human Resources	-7	7	7
	9	Responsiveness	7	7	7
	13	Performance Accountability	0	0	0
	14	Integrity	0	0	0
	16	Interface Responsibilities	6	3	0
	17	Financial Expenditure	-3	0	0
	18	Funding and Support Advocacy	-7	7	7
		Subtotal	2	24	24
		Total Benefit	32	121	111
Implications	19	Transition	20	0	-10
	20	Establishment	7	0	-7
	21	Facilities	3	-3	-3
	22	Control	10	0	0
	23	Human Capital	3	0	0
	24	Competencies	7	0	-7
		Total Implication	50	-3	-27
		Total Benefit vs. Implication	32:50	121:-3	111:-27
		Value to NASA	Low	High	Medium

10	Critical
7	Important
3	Should be Considered

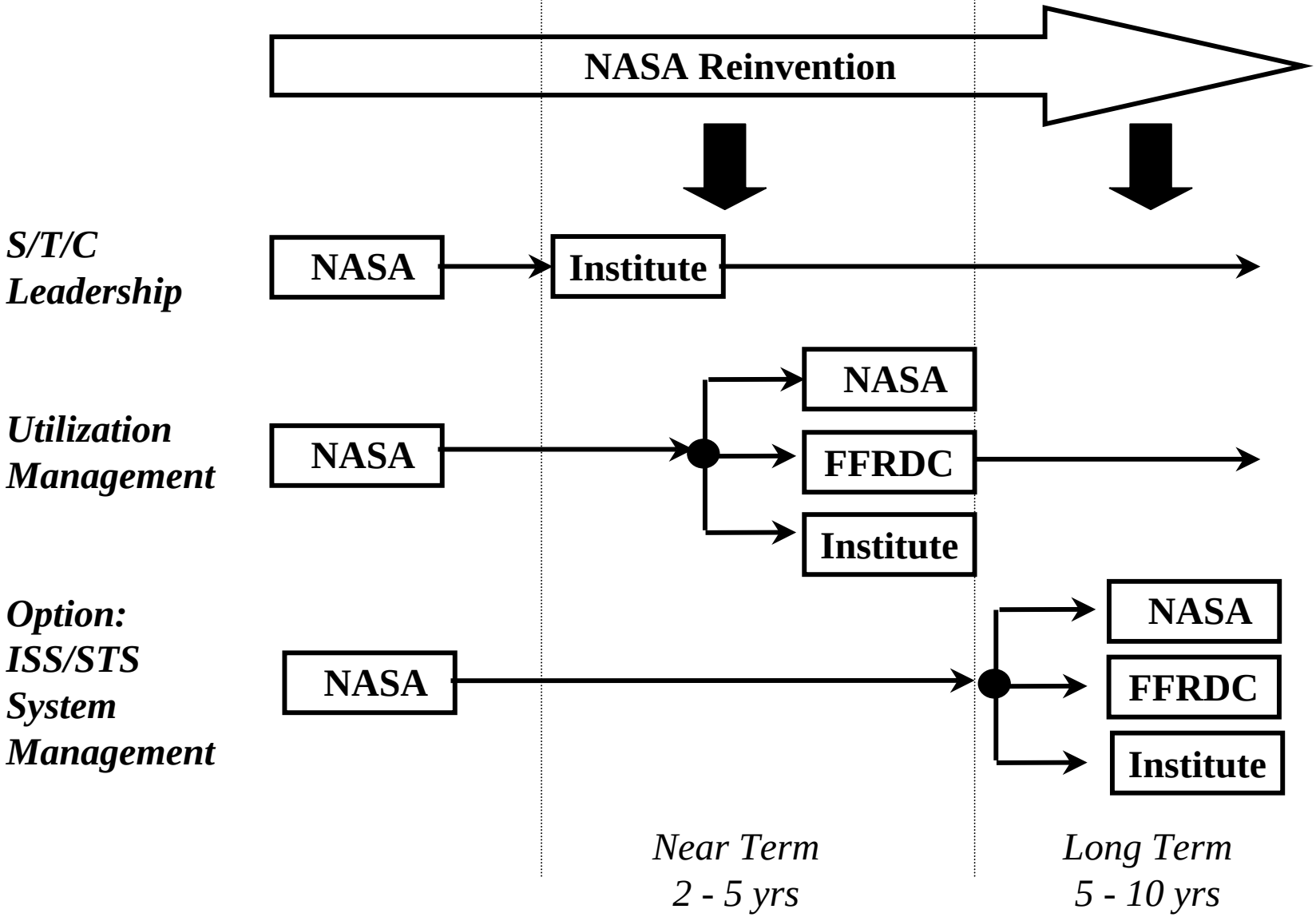
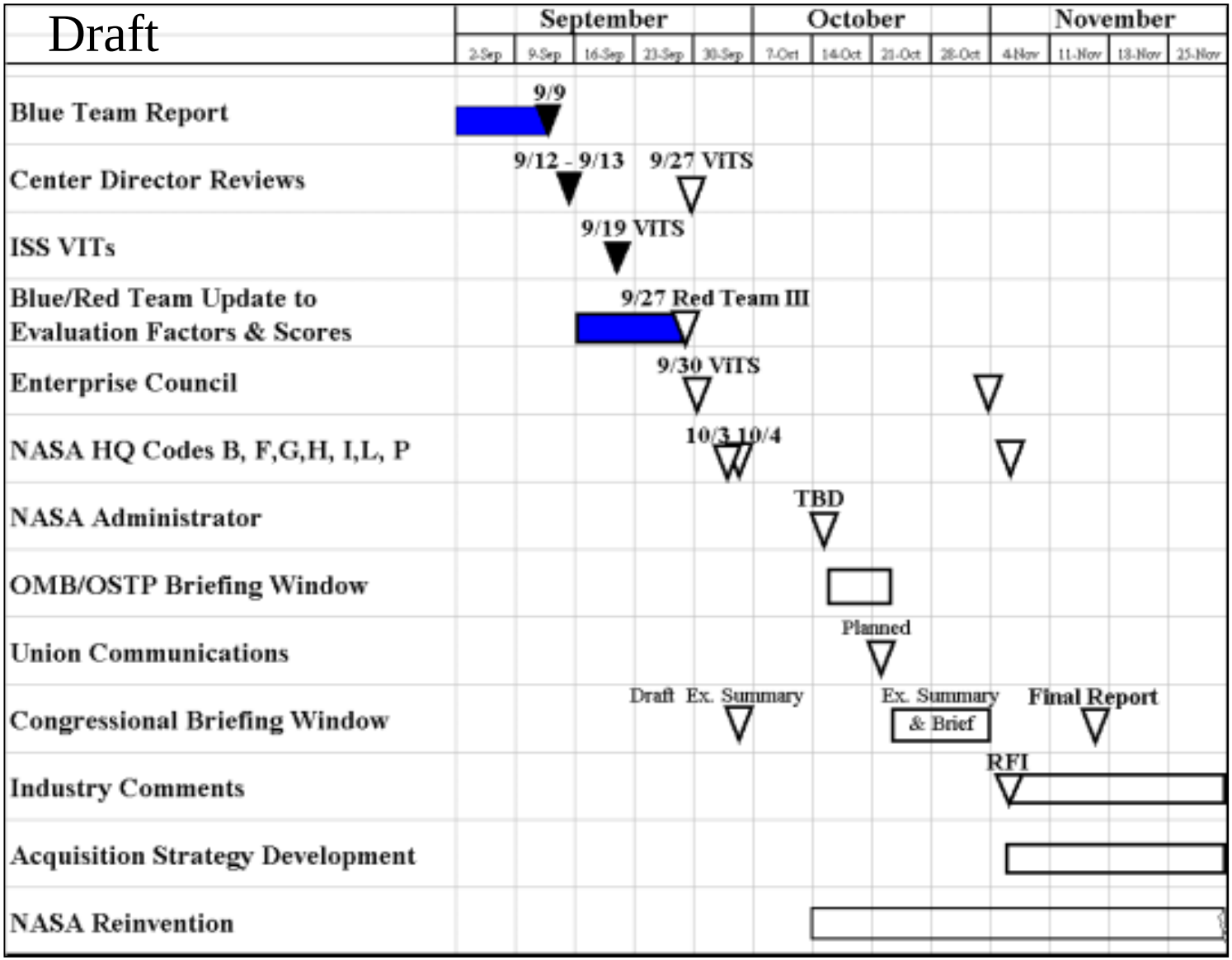
Option Scoring with Blue Team Weighting

CDs	BT	Scoring: +2 (excellent), +1 (good), 0 (neutral), -1 (deficient), -2 (poor)	Weighting Factor	Option 1 Reinvent	Option 2 Institute	Option 3 FFRDC
1	1	Safety Assurances	10	0	0	0
2-5	2-5	Leadership Commitments				
2	2	a. Science	10	0	2	1
3	3	b. Technology	10	2	1	2
4	4	c. Commercial	10	1	1	1
5	5	d. Integrated S/T/C	10	0	1	1
6	6	International Involvement	3	2	0	1
7	7	Quality of Human Resources	7	-1	1	1
8	8	Strategic Focus	3	0	1	1
9	9	Responsiveness	7	1	1	1
10	10	Optimized Use of Access and Resources	10	0	1	1
11	11	Shorter Time to Enable Discovery	7	0	1	1
12	12	Customer Focus	10	0	2	1
13	13	Performance Accountability	7	0	0	0
14	14	Integrity	7	0	0	0
15	15	Knowledge	7	0	1	1
16	16	Interface Responsibilities	3	2	1	0
17	17	Financial Expenditure	3	-1	0	0
18	18	Funding and Support Advocacy	7	-1	1	1
		Performance Sub-Total (max score +/-36)		5	15	14
		Performance Weighted Sub-Total (max score +/-262)		32	121	111

Option Scoring with Center Director Weighting

CDs	Scoring: +2 (excellent), +1 (good), 0 (neutral), -1 (deficient), -2 (poor)	Weighting Factor	Option 1 Reinvent	Option 2 Institute	Option 3 FFRDC
1	Safety Assurances	10	0	0	0
2-5	Leadership Commitments				
2	a. Science	10	0	2	1
3	b. Technology	7	2	1	2
4	c. Commercial	7	1	1	1
5	d. Integrated S/T/C	10	0	1	1
6	International Involvement	3	2	0	1
7	Quality of Human Resources	10	-1	1	1
8	Strategic Focus	7	0	1	1
9	Responsiveness	10	1	1	1
10	Optimized Use of Access and Resources	10	0	1	1
11	Shorter Time to Enable Discovery	10	0	1	1
12	Customer Focus	10	0	2	1
13	Performance Accountability	10	0	0	0
14	Integrity	10	0	0	0
15	Knowledge	7	0	1	1
16	Interface Responsibilities	7	2	1	0
17	Financial Expenditure	7	-1	0	0
18	Funding and Support Advocacy	10	-1	1	1
	Performance Sub-Total (max score +/-36)		5	15	14
	Performance Weighted Sub-Total (max score +/-310)		24	135	118

Decision Points



Aggressive 90 Day Schedule